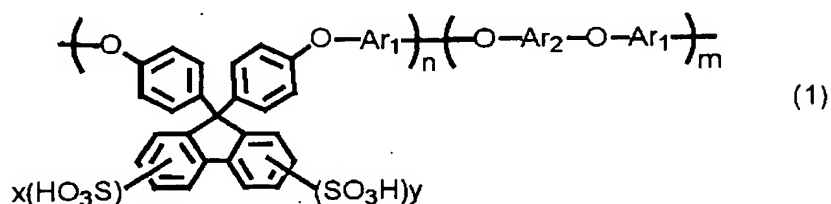


What is claimed is;

1. A sulfonated aromatic polyether characterized in that the fundamental backbone is represented by the general formula (1);
(Chemical formula 1)

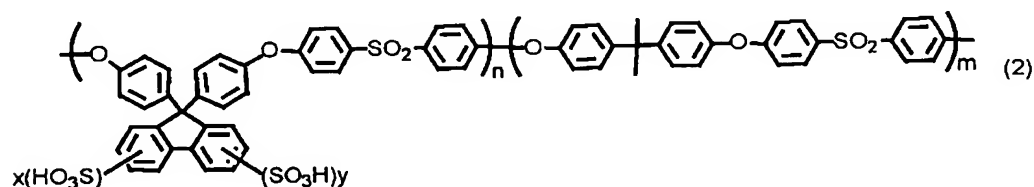


5

wherein (in the general formula (1)) Ar₁ and Ar₂ are C₆₋₂₀ groups containing aromatic ring(s) each of which is selected independently, the group containing aromatic ring(s) may contain aromatic ring(s) selected from phenylene group and naphthylene group, and the plural phenylene groups may be bonded to each other
10 via a heteroatom such as N, O, S, a ketone group, a sulfone group or an aliphatic group in the group containing aromatic ring(s), or the hydrogen atoms in the aromatic ring may be partially substituted with an aliphatic group, a halogen atom, a perfluorinated aliphatic group or a sulfonic acid group;

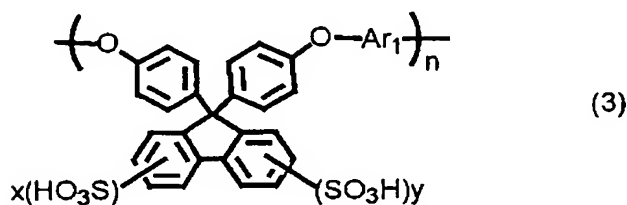
wherein (in the general formula (1)) x and y are each integer of 0 to 3
15 which represent the degree of sulfonation, with the proviso that the case where both of x and y are simultaneously 0 is excluded, and n and m are each an integer of not lower than 2 which represent the degree of polymerization.

2. The sulfonated aromatic polyether according to Claim 1 characterized
in that the fundamental backbone is represented by the general formula (2);
20 (Chemical formula 2)



wherein (in the general formula (2)) x and y are each integer of 0 to 3
which represent the degree of sulfonation, with the proviso that the case where
both of x and y are simultaneously 0 is excluded, and n and m are each an integer
25 of not lower than 2 which represent the degree of polymerization.

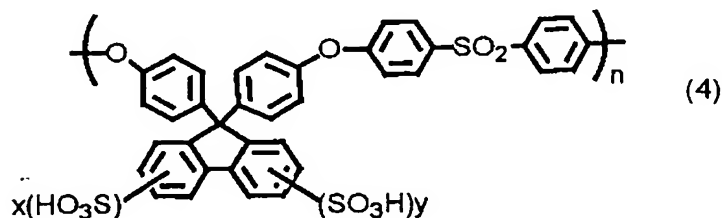
3. The sulfonated aromatic polyether according to Claim 1 characterized in that the fundamental backbone is represented by the general formula (3);
(Chemical formula 3)



5 wherein (in the general formula (3)) Ar₁ is a C₆₋₂₀ group containing aromatic ring(s), the group containing aromatic ring(s) may contain aromatic ring(s) selected from phenylene group and naphthylene group, and the plural phenylene groups may be bonded to each other via a heteroatom such as N, O, S, a ketone group, a sulfone group or an aliphatic group in the group containing aromatic ring(s), or the hydrogen atoms in the aromatic ring may be partially substituted with an aliphatic group, a halogen atom, a perfluorinated aliphatic group or a sulfonic acid group;

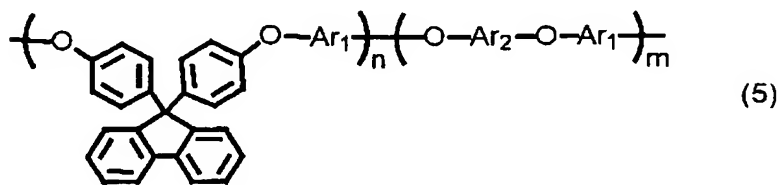
10 wherein (in the general formula (3)) x and y are each integer of 0 to 3 which represent the degree of sulfonation, with the proviso that the case where both of x and y are simultaneously 0 is excluded, and n is an integer of not lower than 2 which represent the degree of polymerization.

4. The sulfonated aromatic polyether according to Claim 3 characterized in that the fundamental backbone is represented by the general formula (4);
(Chemical formula 4)



20 wherein (in the general formula (4)) x and y are each integer of 0 to 3 which represent the degree of sulfonation, with the proviso that the case where both of x and y are simultaneously 0 is excluded, and n is an integer of not lower than 2 which represent the degree of polymerization.

5. A method for production of a sulfonated aromatic polyether characterized in that the side chain of the aromatic polyether represented by the general formula (5) is selectively sulfonated;



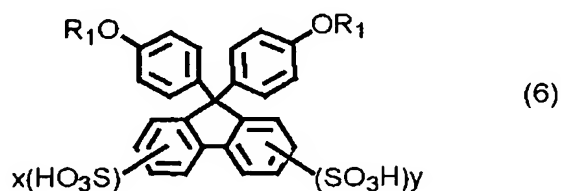
5 wherein (in the general formula (5)) Ar₁ and Ar₂ are C₆₋₂₀ groups containing aromatic ring(s) each of which is selected independently, the group containing aromatic ring(s) may contain aromatic ring(s) selected from phenylene group and naphthylene group, and the plural phenylene groups may be bonded to each other via a heteroatom such as N, O, S, a ketone group, a sulfone group or an aliphatic group in the group containing aromatic ring(s), or the hydrogen atoms in the aromatic ring may be partially substituted with an aliphatic group, a halogen atom, a perfluorinated aliphatic group or a sulfonic acid group;

wherein (in the general formula (5)) n and m are each an integer of not lower than 2 which represent the degree of polymerization.

15 6. A method for production of a sulfonated aromatic polyether, the method characterized in that the side chain of the aromatic polyether is selectively sulfonated, the method comprising the step of polycondensation of the following compounds;

a sulfonated fluorenyl diphenol compound represented by the general formula (6) ;

(Chemical formula 6)

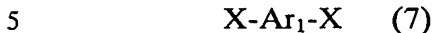


25 wherein (in the general formula (6)) x and y are each integer of 0 to 3 which represent the degree of sulfonation, with the proviso that the case where both of x and y are simultaneously 0 is excluded, and R₁ is selected from a

hydrogen atom, an alkaline metal atom, an alkaline earth metal atom, an alkyl carbamoyl group, and an alkyl sulfonyl group, and

a dihalo-aromatic compound represented by the general formula (7) ;

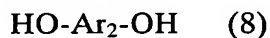
(Chemical formula 7)



wherein (in the general formula (7)) Ar₁ is a C₆₋₂₀ group containing aromatic ring(s), the group containing aromatic ring(s) may contain aromatic ring(s) selected from phenylene group and naphthylene group, and the plural phenylene groups may be bonded to each other via a heteroatom such as N, O, S, a ketone group, a sulfone group or an aliphatic group in the group containing aromatic ring(s), or the hydrogen atoms in the aromatic ring may be partially substituted with an aliphatic group, a halogen atom, a perfluorinated aliphatic group or a sulfonic acid group, and X is a halogen atom such as fluorine, chlorine, bromine and iodine, and

15 a dihydroxy-aromatic compound represented by the general formula (8) ;

(Chemical formula 8)



wherein (in the general formula (8)) Ar₂ is a C₆₋₂₀ group containing aromatic ring(s), the group containing aromatic ring(s) may contain aromatic ring(s) selected from phenylene group and naphthylene group, and the plural phenylene groups may be bonded to each other via a heteroatom such as N, O, S, a ketone group, a sulfone group or an aliphatic group in the group containing aromatic ring(s), or the hydrogen atoms in the aromatic ring may be partially substituted with an aliphatic group, a halogen atom, a perfluorinated aliphatic group or a sulfonic acid group.

25 7. An electrolyte membrane characterized in that the electrolyte membrane is obtained by preparing a membrane from the sulfonated aromatic polyether according to any one of Claim 1 to Claim 4.